Regarding "Descending thoracic aorta to iliofemoral artery bypass grafting: a role for primary revascularization for aortoiliac occlusive disease?"

To the Editors:

In their article, Passman et al (J Vasc Surg 1999; 29:249–58) described their excellent results with the descending aorta to femoral artery bypass grafting procedure. Having previously reported our experience with laparoscopic aortoiliac surgery, we started a clinical study trying to reduce the operative trauma of a descending aorta to iliofemoral artery bypass graft with thoracoscopic techniques.[1,2]

OPERATIVE TECHNIQUE

After intubation with a double lumen endotracheal tube, a 10-mm port was placed in the midaxillary line in the third intercostal space. Through this port, a 30°-angled 10-mm laparoscopic video camera was inserted. A second 10-mm port was placed laterally in the posterior axillary line in the fifth intercostal space. Both ports were required for the changing of camera positions with the suturing of the proximal anastomosis thoracoscopically. A third 12-mm port for a retractor was placed medially in the sixth intercostal space. In most patients, a fourth port was inserted through the seventh intercostal space to serve as an additional instrument port. After videoendoscopic exposure of the descending aorta, the diaphragm was incised and laparoscopic forceps were passed from the retroperitoneum to the chest cavity. Balloon dissection of the retroperitoneum was performed, and, with laparoscopic guidance, a graft was tunneled from the retroperitoneum to the descending aorta. A small incision was made in the sixth intercostal space to serve as an access port for the aortic clamp.

In the first two cases, we used a 5-cm to 6-cm incision, which was large enough for us to suture the anastomosis with direct vision. In the remaining seven cases, a 3-cm to 4-cm incision was made and the anastomosis was sutured entirely thoracoscopically. The size of the incision was large enough to allow easy passage of a conventional aortic side biting clamp (Fig 1).

RESULTS

A total of 11 patients underwent operation with this thoracoscopic approach. In two patients, conversion to an open procedure was required because of extensive adhesions. There were no major complications.

All the patients were allowed to drink on the evening of the day of the operation and were given solid food on the first postoperative day. The chest tube was removed on the second postoperative day, and the patients were fully mobilized. The mean operative time was 278.7 ± 37.8 minutes. The aortic cross clamp time did not exceed 58.0 ± 22.1 minutes. The patients could be discharged from the intensive care unit after a mean interval of 2.09 ± 1.7 days and could leave the hospital after 7.54 ± 2.1 days.

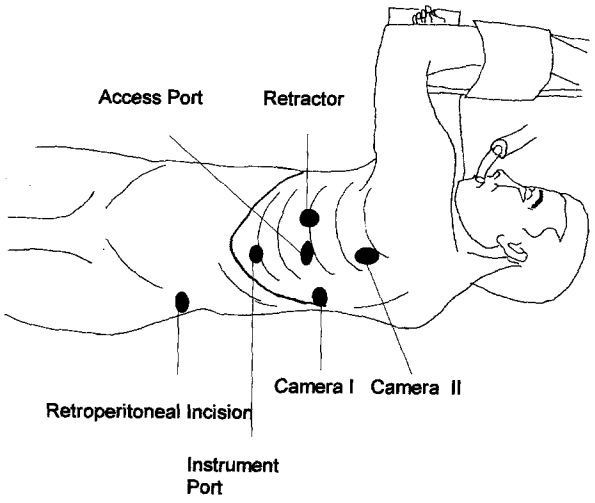

Fig 1. Placement of trocars in intercostal spaces as indicated.

This experience suggests that the patient can benefit from this minimally invasive approach. The thoracoscopic access, particularly with use of a conventional clamp, could be an attractive alternative to the technique described by Passman and colleagues.

Ralf Kolvenbach, MD, PhD

Department of Vascular Surgery
Augusta Hospital Düesseldorf
Düesseldorf, Germany

REFERENCES

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2. Kolvenbach R, Deling O, Schwierz E, Landers B. Reducing the operative trauma in aortoiliac reconstructions—a prospective study to evaluate the role of video-assisted vascular surgery. Eur J Vasc Endovasc Surg 1998;15:483-8.

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Reply

Dr Kolvenbach brings to attention the use of thoracoscopic techniques for descending thoracic aorta to iliofemoral bypass grafting.

For these thoracoscopic modifications to be considered a reasonable alternative to the standard thoracotomy approach, several concerns should be addressed. First, there should be proper patient selection. A limiting factor